Attorney Docket: XY-Super-Cont2 Express Mail No: EL913300649US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE In Re the Application of: George Seidel, Lisa Herickhoff, John Schenk (Parent: 09/448,643) New: _____ (Parent: 11/24/1999) Multiple Sexed Embryo Production System for Mammals Using Low Numbers of Spermatozoa (Parent Title: Multiple Sexed Embryo Production System for Mammals) (Parent: 1655) New:_____ New:_____ (Parent: Carla J. Myers)

XY, Inc. and Colorado State University through its agent Colorado

CERTIFICATE OF EXPRESS MAILING

State University Research Foundation

- I, Barbara Graves, hereby certify to the truth of the following items:
- I am an employee of Santangelo Law Offices, P.C., 125 South Howes, Third Floor, Fort Collins, Colorado 80521.
- I have this day deposited the attached Information Disclosure Citation listing references previously cited in the parent case with the United States Postal Service as "Express Mail" for mailing to the Commissioner for Patents and Trademarks, Box Application, Washington, D.C. 20231.

Dated this 20th day of February, 2002.

Serial Number:

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New Title:

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Examiner:

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Sarhara Sama

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE	DOCKET NO. XY SuperOCont2	Serial No	10
INFORMATION DISCLOSURE	APPLICANT (S) George Seidel, Lisa	a Herickhoff, John Schenk	2005 0/02
CITATION	FILING DATE February 19, 2002	ART UNIT -	
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I.

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	5,660,997	08/26/97	Spaulding	435	7.21	06/07/95
	5,514,537	05/07/96	Chandler	435	2	11/28/94
	5,439,362	08/08/95	Spaulding	424	185.1	07/25/94
	5,346,990	09/13/94	Spaulding	530	350	03/12/91
	5,135,759	08/04/92	Johnson	424	561	04/26/91
	5,021,244	06/04/91	Spaulding	424	561	05/12/89
	4,999,283	03/12/91	Zavos et al	435	2	08/18/89
	4,749,458	06/07/88	Muroi et al	204	182.3	03/02/87
	4,698,142	10/06/87	Muroi et al	204	182.3	07/31/85
	4,680,258	07/14/87	Hammerling et al	435	7	08/09/83
	4,511,661	04/16/85	Goldberg	436	503	12/30/83
	4,448,767	05/15/84	Bryant	424	85	02/15/80
	4,362,246	12/07/82	Adair	209	3.3	07/14/80
	4,339,434	07/13/82	Ericsson	424	105	08/17/81
	4,276,139	06/30/81	Lawson	204	180 R	10/09/79
	4,225,405	09/30/80	Lawson	204	180 R	08/16/78
	4,191,749	03/04/80	Bryant	424	105	10/11/77
	4,155,831	05/22/79	Bhattacharya	207	299 R	02/23/78
	4,092,229	05/30/78	Bhattacharya	204	180 R	10/20/76
	4,660,971	04/28/87	Sage et al.	356	39	05/03/84
	4,988,619	01/29/91	Pinkel	435	30	11/30/87
	5,483,469	01/09/96	Van den Engh et al.	364	555	08/02/93
	5,466,572	11/14/95	Sasaki et al.	435	2	04/25/94
	5,602,039	02/11/97	Van den Engh	436	164	10/14/94
	5,690,895	11/25/97	Matsumoto et al.	422	73	12/06/96
	5,700,692	12/23/97	Sweet	436	50	09/27/94
	5,726,364	03/10/98	Van den Engh	73	864.85	02/10/97
	5,602,349	02/11/97	Van den Engh	73	864.85	10/14/94
	6,071,689	06/06/00	Seidel et al.	435	2	01/29/98

3,894,529	07/15/75	Shrimpton	128	1 R	04/10/69
3,687,806	08/29/72	Van den Bovenkamp	195	1.3	11/04/69
RE32350	02/10/87	Bhattacharya			11/22/74

II.

FOREIGN PATENT DOCUMENTS

EXAMINER	DOCUMENT NO	DATE	COUNTRY	CLASS	SUBCLASS	TRANSL	ATION
INITIAL						Yes	No
	WO 98/34094	06/08/98	NZ				
	WO 99/05504	07/24/98	US				
	WO 99/33956	08/07/99	US				
	WO 99/38883	05/08/99	US				
	WO 99/42810	26/08/99	US				
	WO 00/06193	10/02/00	US				<u> </u>

III. OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Amann, R., et al., Prospects For Sexing Mammalian Sperm Colorado Associated University Press, Animal Reproduction Laboratory College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO, 80523, 1982
Amoah, E.A. and Gelaye, S. 1996. Biotechnological advances in goat reproduction. J. Anim. Sci. 75(2): 578-585
Andersen, V.K., Aamdal, J. and Fougner, J.A. 1973. Intrauterine und tiefzervikale Insemination mit Gefriersperma bein Schat. Zuchthygiene. 8:113-118.
Baker, R.D., Dziuk, P.J. and Norton, H.W. 1968. Effect of volume of semen, number of sperm and drugs on transport of sperm in artificially inseminated gilts. J. Anim. Sci. 27:88-93.
Becker, S.E. and Johnson, A.L. 1992. Effects of gonadotropin releasing hormone infused in a pulsatite or continuous fashion on serum gonadotropin concentrations and ovulation in the mare. J. Anim. Sci. 70:1208-1215.
Bedford, S.J. and Hinrichs, K. 1994. The effect of insemination volume on pregnancy rates of pony mares. Theriogenology 42:571-578.
Berger, G.S. 1987. Intratubal insemination. Fert. Steril. 48:328-330.
Beyhan, Z., Welch, G.R. and First, N.L. 1998. Sexual dimorphism in IVF bovine embryos produced by sperm sorted by high-speed flow cytometry. Theriogenology. 49(1): 359. abstr.
Bracher, V. and Allen, W.R., Videoendoscopic Examination of the Mare's Uterus: Findings in Normal Fertile Mares, Equine Veterinary Journal, Vol. 24 (1992), pp. 274-278
Braselton, W.E. and McShan, W.H. 1970. Purification and properties of follicle stimulating and luteinizing hormones from horse pituitary glands. Arch. Biochem. Biophys. 139:45-48.
 Brethour, J.R. and Jaeger, J.R., The Single Calf Heifer System, Kansas Agric. Sta. Rep of Progress 570, 1989.
Bristol, S.P. 1982. Breeding behavior of a stallion at pasture with 20 mares in synchronized estrus. J. Reprod. Fert. Suppl. 32:71.
Buchanan, B.R., et al, Insemination of Mares with Low Numbers of Either Unsexed or Sexed Spermatozoa, Theriogenology, Vol. 53, pp 1333-1344, (2000)
Burwash, L.D., Pickett, B.W., Voss, J.L. and Back, D.G. 1974. Relationship of duration of stems to pregnancy rate in normally cycling, non-lactating mares. J.A.V.M.A. 165:714-716.
Caslick, E.A., The Vulva and the Vulvo-vaginal Orifice and its Relation to Genital Health of the Thoroughbred Mare, Cornell Veterinarian, Vol. 27, 1937, pp. 178-187

	Chin, W.W. and Boime, I. 1990. In: Glycoprotein Hormones. Serona Symp. Norwell, MA. pp. 19-20
	Chung, Y.G., Schenk, J.L., Herrickhoff, L.A. and Seidel, G.E. Jr. 1998. Artificial insemination of super ovulated heifers with 600,000 sexed sperm. J Anim. Sci. Suppl. 1. 836:215. abstr.
	Clement, F., Vincent, P., Mahla, R., Meriaux, J.C. and Palmer, E. 1998. Which insemination fertilizes when several successive inseminations are performed before ovulation. 7 th Int. Symp. Eq. Repro. 151. abstr.
	Cran, D.G. et al., Production of Lambs by Low Dose Intrauterine Insemination With Flow Cytometrically Sorted and Unsorted Semen, Aberdeen, AB21 9TN, UK Scottish Agricultural College, Craibstone, Bucksburn, Aberdeen. AB21 9YA, UK, Theriogenology, Page 267
	Cran, D.G., Johnson, L.A., Miller, N.G., Cochrane, D. and Polge, C. 1993. Production of bovine calves following separation of X- and Y-chromosome bearing sperm and <i>in vitro</i> fertilization. Vet. Rec. 132:40-41.
<u></u>	Curran, S. 1998. In: Equine Diagnostic Ultrasonography. Fetal gender determination. Rantanen & McKinnon. 1 st Ed. Williams and Wilkins. pp. 165-169.
	Day, B.N., Abeydeera, L.R., Johnson, L.A., Welch, G.R., Wang, W.H., Cantley, T.C. and Rieke, A. 1998. Birth of piglets preselected for gender following in vitro fertilization of in vitro matured pig oocytes by X and Y bearing spermatozoa sorted by high-speed flow cytometry. Theriogenology. 49(1): 360. abstr.
	Dean, P.N., Pinkel, D. and Mendelson, M.L. 1978. Hydrodynamic orientation of spermatozoa heads for flow cytometry. Biophys. J. 23:7-13.
	Demick, D.S., Voss, J.L. and Pickett, B.W. 1976. Effect of cooling, storage, glycerinating and spermatozoa numbers on equine fertility. J. Anim. Sci. 43:633-637.
	DenDaas, J.H.G., De Jong, G., Lansbergen, L.M.T.E. and Van Wagtendonk-De Leeuw, A.M. 1998. The relationship between the number of spermatozoa inseminated and the reproductive efficiency of dairy bulls. J Dairy Sci. 81: 1714-1723.
	Donoghue, A.M., Byers, A.P., Johnston, L.A., Armstrong, D.L. and Wildt, D.E. 1996. Timing of ovulation after gonadotropin induction and its importance to successful intrauterine insemination in the tiger (Panthera tigris). J. Reprod. Fert. 107:53-58.
	Douglas, R.H. 1979. Review of super ovulation and embryo transfer in the equine. Theriogenology. 11:33-46.
	Douglas, R.H., Nuti, L. and Ginther, O.J. 1974. Induction of ovulation and multiple ovulations on seasonally-an- ovulatory mares with equine pituitary fractions. Theriogenology. 2(6): 133-142.
	Duchamp, G., Bour, B., Combamous, Y. and Palmer, E. 1987. Alternative solutions to hCG induction of ovulation in the mare. J. Reprod. Fert. Suppl. 35:221-228.
	Evans, M.J. and Irvine, C.H.G. 1977. Induction of follicular development, maturation and ovulation by gonadotropin releasing hormone administration to acrylic mares. Bio. Reprod. 16:452-462.
	Fitzgerald, B.P., Peterson, K.D. and Silvia, P.J. 1993. Effect of constant administration of a gonadotropin-releasing hormone agonist on reproductive activity in mares: Preliminary evidence on suppression of ovulation during the breeding season. Am. J. Vet. Res. 54:1746-1751.
	Fluharty, F.L., et al., Effects of Age at Weaning and Diet on Growth of Calves, Ohio Agri. Res. and Dev. Circular, 1996, 156: 29.
	Foulkes, J.A., Stewart, D.L. and Herbert, C.N. 1977. Artificial insemination of cattle using varying numbers of spermatozoa. Vet. Rec. 101:205.
	Fugger, E.F., Clinical Experience with Flow Cytometric Separation of Human X- and Y- Chromosome Bearing Sperm, Theriogenology, Vol. 52, pp. 1435-1440 (1999)
	Fulwyler, M.J. 1965. Electronic separation of biological cells by volume. Science. 150:910.
	Fulwyler, M.J. 1977. Hydrodynamic orientation of cells. J Histochem. Cytochem. 25:781-783.
	Garner, D.L., Gledhill, B.L., Pinkel, D., Lake, S., Stephenson, D., Van Dilla, M.A. and Johnson, L.A. 1983. Quantification of the X and Y chromosome-bearing spermatozoa of domestic animals by flow cytometry. Biol. Reprod.

	28:312-321.
	Ginther, O.J. 1971. Some factors which alter estrus cycle in mares. J. Anim. Sci. 33:1158. abstr.
	Ginther, O.J. 1983. Sexual behavior following introduction of a stallion into a group of mares. Theriogenology. 19:877.
	Ginther, O.J. 1992. In: Reproductive Biology of the Mare. (2 nd Ed.) Equiservices, Cross Plains, WI.
	Gledhill, B.L. 1988. Gender preselection: historical, technical and ethical perspective. Semen Reprod. Endocrinol. 6:385-395.
	Gourley, D.D. and Riese, R.L. 1990. Laparoscopic artificial insemination in sheep. Vet. Clin. N. Amer: Food Anim. Prac. 6(3): 615-633.
	Grondahl, C., et al, In Vitro Production of Equine Embryos, Biology of Reproduction, Monograph Series I, pp. 299-307 (1995)
	Guillou, F. and Combamous, Y. 1983. Purification of equine gonadotropin and comparative study of their acid-dissociation and receptor-binding specificity. Biochem. Biophys. Acta. 755:229-236.
-	Gurnsey, M.P., and Johnson, L.A., Recent improvements in efficiency of flow cytometric sorting of X and Y-chromosome bearing sperm of domestic animals: a review, 1998, New Zealand Society of Animal Protection, three pages.
	Harrison, L.A., Squires, E.L. and McKinnon, A.O. 1991. Comparison of hCG, buserelin and luprostiol for induction of ovulation in cycling mares. Eq. Vet. Sci. 3:163-166.
	Hofferer, S., Lecompte, F., Magallon, T., Palmer, E. and Combamous, Y. 1993. Induction of ovulation and super ovulation in mares using equine LH and FSH separated by hydrophobic interaction chromatography. J. Reprod. Fert. 98:597-602.
	Holtan, D.W., Douglas, R.H. and Ginther, O.J. 1977. Estrus, ovulation and conception following synchronization with progesterone, prostaglandin F2 ct and human chorionic gonadotropin in pony mares. J. Anim. Sci. 44:431-437.
	Householder, D.D., Pickett, B.W., Voss, J.L. and Olar, T.T. 1981. Effect of extender, number of spermatozoa and hCG on equine fertility. J. Equine Vet. Sci. 1:9-13.
	Howard, J.G., Bush, M., Morton, C., Morton, F., Wentzel, K. and Wildt, D.E. 1991. Comparative semen cryopreservation in ferrets (Mustela putorious furo) and pregnancies after laparoscopic intrauterine insemination with frozen-thawed spermatozoa. J. Reprod. Fert. 92:109-118.
	Howard, J.G., Roth, T.L., Byers, A.P., Swanson, W.F. and Wildt, D.E. 1997. Sensitivity to exogenous gonadotropins for ovulation and laparoscopic artificial insemination in the thetas and clouded leopard. Biol. Reprod. 56:1059-1068.
	Hunter, R.H.F. 1980. Transport and storage of spermatozoa in the female reproductive tract. Proc 4 th Int. Congr. Artira. Repro. and A.I. 9:227-233.
	Hyland, J.H., Ainsworth, C.G.V. and Langsford, D.A. 1988. Gonadotropin-releasing hormone (GnRH) delivered by continuous infusion induces fertile estrus in mares during seasonal acyclicity. Proc. Amer. Assoc. Eq. Prac. 181-190.
:	Irvine, C.H.G. and Alexander, S.L. 1993. <i>In:</i> Equine Reproduction. Edited by McKirmon and Voss. Lee and Febriger. Philadelphia, London. pp. 37.
-	Jafar, et al., Sex Selection in Mammals: A Review, Theriogenology, Vol. 46, pp 191-200 (1996)
	Jasko, D.J., Martin, J.M. and Squires, E.L. 1992. Effect of volume and concentration of spermatozoa on embryo recovery in mares. Theriogenology. 37:1233-1239
	Johnson L.A., et al., 1987. Flow cytometry of X- and Y- chromosome bearing sperm for DNA using an improved preparation method and staining with Hoechst 333-42. Garnete Research 17: 203-212
	Johnson, A.L. 1986. Pulsatile release of gonadotropin releasing hormone advances ovulation in cycling mares. Biol. Reprod. 35:1123-1130.
	Johnson, A.L. and Becker, S.E. 1988. Use of gonadotropin-releasing hormone (GnRH) treatment to induce multiple ovulations in the anoestrous mare. Eq. Vet. Sci. 8:130-134.
	Johnson, L.A., Advances in Gender Preselection in Swine, Journal of Reproduction and Fertility Supplement, Vol. 52,

	and pp. 255-266 (1997)
	Johnson, L.A., Sex Preselection in Swine: Altered Sex Ratios in Offspring Following Surgical Insemination of Flow Sorted X- and Y- Bearing Sperm, Reproduction in Domestic Animals, Vol. 26, pp. 309-314 (1991)
	Johnson, L.A. 1988. Flow cytometric determination of spermatozoa sex ratio in semen purportedly enriched for X or Y bearing spermatozoa. Theriogenology. 29:265. abstr.
-	Johnson, L.A. 1992. Gender preselection in domestic animals using flow cytometrically sorted sperm. J Anim. Sci. Suppl 1.70:8-18.
	Johnson, L.A. 1994. Isolation of X- and Y-bearing spermatozoa for sex preselection. <i>In:</i> Oxford Reviews of Reproductive Biology. Ed. HH Charlton. Oxford University Press. 303-326.
	Johnson, L.A. 1995. Sex preselection by flow cytometric separation of X and Y chromosome bearing spermatozoa based on DNA difference: a review. Reprod. Fert. Dev. 7:893-903.
	Johnson, L.A. and Welch, G.R., Sex Preselection: High-speed flow cytometric sorting of X and Y sperm for maximum efficiency, Theriogenology, Vol. 52, (1999), pp. 1323-1341
	Johnson, L.A. and Schulman, J.D. 1994. The safety of sperm selection by flow cytometry. Ham. Reprod. 9(5): 758.
	Johnson, L.A., et al, Sex Preselection in Swine: Flow Cytometric Sorting of X- and Y- Chromosome Bearing Sperm to Produce Offspring, Boar Semen Preservation IV, 2000, pp. 107-114.
	Johnson, L.A., et al., 1994. Improved flow sorting resolution of X- and Y- chromosome bearing viable sperm separation using dual staining and dead cell gating. Cytometry 17 (suppl 7): 83.
	Johnson, L.A., Flook, J.P., Look, M.V. and Pinkel, D. 1987b. Flow sorting of X and Y chromosome bearing spermatozoa into two populations. Gam. Res. 16:203-212.
	Johnson, L.A., Welch, G.R., Rens, W. and Dobrinsky, J.R. 1998. Enhanced flow cytometric sorting of manunalian X and Y sperm: high speed sorting and orienting no77.1e for artificial insemination. Theriogenology. 49(1): 361. abstr.
	K.L. Macmillan, et al., Prostaglandin F2a - A Fertility Drug In Dairy Cattle? Ruakura Animal Research Station, Private Bag, Hamilton, New Zealand, Theriogenology, September 1982, VOL. 18 No. 3, pages 245-253
	Kachel, V., et al., Uniform Lateral Orientation, Caused by Flow Forces, of Flat Particles in Flow-Through Systems, The Journal of Histochemistry and Cytochemistry, 1997, Vol. 25, No. 7, pp 774 -780.
	Kanayama, K., Sankai, T., Nariaik, K., Endo, T. and Sakuma, Y. 1992b. Pregnancy by means of tubule insemination and subsequent spontaneous pregnancy in rabbits. J. Int. Med. Res. 20:401-405.
	Kilicarslan, M.R., Horoz, H., Senunver, S.C., Konuk, S.C., Tek, C. and Carioglu, B. 1996. Effect of GrnRH and hCG on ovulation and pregnancy in mares. Vet. Rec. 139:119-120.
	Lapin, D.R. and Ginther, O.J. 1977. Induction of ovulation and multiple ovulations in seasonally ovulatory and ovulatory mares with an equine pituitary extract. J. Anim. Sci. 44:834-842.
-	Lawrenz, R. 1985. Preliminary results of non-surgical intrauterine insemination of sheep with thawed frozen semen. J S Afr. Vet. Assoc. 56(2): 61-63.
	Levinson, G., Keyvanfar, K., Wu, J.C., Fugger, E.F., Fields, R.A., Harton, G.L., Palmer, F.T., Sisson, M.E., Starr, K.M., Dennison-Lagos, L., Calvo, L., Sherins, R.J., Bick, D., Schulman, J.D. and Black, S.H. 1995. DNA-based X-enriched sperm separation as an adjunct to preimplantation genetic testing for the preparation of X-linked disease. Mol. Human Reprod. 10:979-982.
	Lindsey, A., et al., Hysteroscopic Insemination of Mares with Non-frozen Low-dose Unsexed or Sex-sorted Spermatozoa, currently unpublished, pp. 1-15.
	Linge, F. 1972. Faltforsok med djupfrost sperma (field trials with frozen sperm). Farskotsel. 52:12-13.
	Long, C.R., Rath, D., Welch, G.R., Schreier, L.L., Dobrinsky, J.R. and Johnson, L.A. 1998. In vitro production of porcine embryos from semen sorted for sex with a high-speed cell sorter: comparison of two fertilization media. Theriogenology. 49(1): 363. abstr.

*******	fertility in the mare. Cornell Vet. 56:41-50.
	Matsuda, Y. and Tobari, I. 1988. Chromosomal analysis in mouse eggs fertilized <i>in vitro</i> with sperm exposed to ultraviolet light (UV) and methyl and ethyl methane sulfonate (MMS and EMS). Mutat. Res. 198:131-144.
	Maxwell, W.M.C., Evans, G., Rhodes, S.L., Hillard, M.A. and Bindon, B.M. 1993. Fertility of Super ovulated Ewes after Intrauterine or Oviductal Insemination with Low Numbers of Fresh or Frozen-Thawed Spermatozoa. Reprod. Fertil. Dev. 5:57-63.
-	McCue, P.M. 1996. Super ovulation. Vet. Clin. N. Amer. Eq. Prac. 12:1-11.
	McCue, P.M., Fleury, J.J., Denniston, D.J., Graham, J.K. and Squires, E.L. 1997. Oviductal insemination in the mare. 7 th
	Int Symp. Eq. Reprod. 133. abstr.
	McDonald, L.E. 1988. Hormones of the pituitary gland. <i>In:</i> Veterinary Pharmacology and Therapeutics. 6 th ed. Edited by N.H. Booth and L.E. McDonald. Ames, Iowa State Univ. Press. pp. 590.
	McKenna, T., Lenz, R.W., Fenton, S.E. and Ax, R.L. 1990. Nonreturn rates of dairy cattle following uterine body or communal insemination. J. Dairy Sci. 73:1179-1783.
1.81	McKinnon, A. and Voss, J., Equine Reproduction, Lea & Febriger, Philadelphia, 1993, pp 291, 299 - 302, 345 - 348, 739 - 797.
	McKinnon, A. et al, 1993. Predictable ovulation in mares treated with an implant of the GnRH analogue deslorelin. Eq. Vet. J. 25:321-323.
	McKinnon, A.O. et al, 1996. Repeated use of a GnRH analogue deslorelin (Ovuplant) for hastening ovulation in the transitional mare. Eq. Vet. J. 29:153-155.
	McNutt, et al., Flow Cytometric Sorting of Sperm: Influence on Fertilization and Embryo/Fetal Development in the Rabbits, Molecular Reproduction and Development, Vol. 43, pp 261-267 (1996)
	Meyers, P.J., Bowman, T., Blodgett, G., Conboy, H.S., Gimenez, T., Reid, M.P., Taylor, B.C., Thayer, J., Jochle, W. and Trigg, T.E. 1997. Use of the GnRH analogue, deslorelin acetate, in a slow release implant to accelerate ovulation in oestrous mares. Vet. Rec. 140:249-252.
	Michaels, Charles, Beef A.I. Facilities that work, Proc. Fifth N.A.A.B Tech. Conf. A.I. Reprod. Columbia, MO. pp. 20-22.
	Michel, T.H., Rossdale, P.D. and Cash, R.S.G. 1986. Efficacy of human chorionic gonadotrophin and gonadatrophin releasing hormone for hastening ovulation in Thoroughbred mares. Eq. Vet. J. 6:438-442.
-	Miller, S.J. 1986. Artificial Breeding Techniques in Sheep. In Morrow, D.A. (ed): Current Therapy in Theriogenology 2. Philadelphia, WB Saunders.
	Mirskaja, L.M. and Petrapavlovskii, V.V. 1937. The reproduction of normal duration of heat in the mare by the administration of Prolan. Probl. Zivotn. Anim. Breed. Abstr. 5:387.
	Molinia, F.C., Gibson, R.J., Brown, A.M., Glazier, A.M. and Rodger, J.C. 1998. Successful fertilization after super ovulation and laparoscopic intrauterine insemination of the brush tail possum, <i>Trichosurus vulpecula</i> , and tammar wallaby, <i>Macropus eugenii</i> . J. Reprod. Fert. 112:9-17.
	Morcom, C.B. and Dukelow, W.R. 1980. A research technique for the oviductal insemination of pigs using laparoscopy. Lab. Anim. Sci. 1030-I031.
	Morris, L.H., et al., Hysteroscopic insemination of small numbers of spermatozoa at the uterotubal junction of preovulatory mares, Journal of Reproduction and Fertility, Vol. 118, pp. 95-100 (2000)
	Muller, W. and Gautier, F. 1975. Interactions of heteroaromatic compounds with nucleic acids. Euro. J Biochem. 54:358.
	Munne, S. 1994. Flow cytometry separation of X and Y spermatozoa could be detrimental to human embryos. Hum. Reprod. 9(5): 758
	Pace, M.M. and Sullivan, J.J. 1975. Effect of timing of insemination, numbers of spermatozoa and extender components on pregnancy rates in mares inseminated with frozen stallion semen. J Reprod. Fert. Suppl. 23:115-121.
	Parrish, J.J., et al, Capacitation of Bovine Sperm by Heparin, Department of Meat and Animal Science, University of

Wisconsin, Madison, WI 53706, Biology Of Reproduction 38, 1171-1180 (1988)
Peippo, J., et al., Sex diagnosis of equine preimplantation embryos using the polymerase chain reaction, Theriogenology, Vol. 44 619-627 (1995)
Perry, E.J. 1968. Historical Background In: <i>The Artificial Insemination of Farm Animals</i> . 4 th ed. Edited by E.J. Perry. New Brunswick, Rutgers University Press, pp. 3-12.
Petersen, G.A., et al, Cow and Calf Performance and Economic Considerations of Early Weaning of Fall-Born Beef Calves, J. Anim. Sci., 1987, 64, pp 15-22.
Pickett GW, et al., Management of the mare for maximum reproductive efficiency, Bulletin No. 6 Colorado State University, Ft. Collins CO. (1989)
Pickett, B.W, et al., 1976. Factors influencing the fertility of stallion spermatozoa in an A.I. program. Proc. 8 th Internat. Congr. Anim. Reprod. A.I. Krakow, Poland. 4: 1049 - 1052.
Pickett, B.W. and Back, D.G. 1973. Procedures for preparation, collection, evaluation and insemination of stallion semen. C.S.U. Exp. Sta. Artira. Reprod. Lab. Gen. Series Bull. 935.
Pickett, B.W., Burwash, L.D., Voss, J.L. and Back, D.G. 1975b. Effect of seminal extenders on equine fertility. J. Anim. Sci. 40:1136-1143.
Pinkel, D., Gledhill, B.L., Van Dilla, M.A., Stephenson, D. and Watchmaker, G. 1982b. High-resolution DNA measurements of mammalian spermatozoa. Cytometry. 3:1-9. (1982b)
 Rath, D., et al., Low Dose Insemination Technique in the Pig, Boar Semen Preservation IV, 2000, pp. 115-118.
Reiling, B.A., et al., Effect of Prenatal Androgenization on Performance, Location, and Carcass and Sensory Traits on Heifers in Single Calf Heifer System, J. Anim. Sci., 1995, 73: 986, pp 986-992.
Rens, W., et al., A Novel Nozzle for More Efficient Sperm Orientation to Improve Sorting Efficiency of X and Y Chromosome-Bearing Sperm, Technical Notes, Cytometry 33, 1998, pp 476-481.
Rens, W., et al., Improved Flow Cytometric Sorting of X- and Y- Chromosome Bearing Sperm: Substantial Increase in Yield of Sexed Semen, Molecular Reproduction and Development, 1999, pp 50-56.
 Ritar, A. and Ball, A. 1991. Fertility of young cashmere goats after laparoscopic insemination. J. Agr. Sci. 117:271-273.
 Roberts, J.R. 1971. In: Veterinary Obstetrics and Genital Diseases. Ithaca, New York. pp. 740-749.
Roser, JF., Evans, J.W., Kiefer, DP., Neeley, D.P. and Pacheco, C.A. 1980. Reproductive efficiency in mares with anti- hCG antibodies. Proc 9 th Int. Congr. Artira. Repro. and A.I. 4:627. abstr.
Roth, T.L., Wolfe, B.A., Long, J.A., Howard, J. and Wildt, D.E. 1997. Effects of equine chorionic gonadotropin, human chorionic gonadotropin, and laparoscopic artificial insemination on embryo, endocrine, and luteal characteristics in the domestic cat. Bio Reprod. 57:165-171.
 Rowley, H.S, Squires, E.L. and Pickett, B.W. 1990. Effect of insemination volume on embryo recovery in mares., J. Equine Vet. Sci. 10:298-300.
 Salamon, S. 1976. Artificial insemination of Sheep. Chippendale, New South Whales. Publicity Press. p.83-84.
Salisbury, G.W. and VanDemark, N.L. 1961. Physiology of Reproduction and Artificial Insemination of Cattle. San Francisco: Freeman and Company.
SAS, SAS/STAT User's Guide (Release 6.03), SAS Inst. Inc., Cary, NC. 1988. 3 pages
Schenk, J.L., Cryopreservation of flow-sorted bovine spermatozoa, Theriogenology, Vol. 52, 1375-1391 (1999)
Schenk, J.L. and Seidel, Jr., G.E., Imminent Commercialization of Sexed Bovine, Proceedings, The Range Beef Cow Symposium XVL, 1999, pp 89-96.
Schmid R.L., et al, Fertilization with Sexed Equine Spermatozoa Using Intracytoplasmic Sperm Injection and Oviductal Insemination, 7th International Symposium On Equine Reproduction, pp. 139 (Abstract) (1998)
Seidel, G.E. et al., Insemination Of Heifers With Very Low Numbers of Frozen Spermatozoa. Colorado State University Fort Collins, Atlantic Breeders Cooperative, Lancaster, PA, DUO Dairy, Loveland, CO, July 1996

,

	Biotechnology Laboratory, Colorado State University, Fort Collins, CO; Germplasm and Gamete Physiology Lab, ARS, USDA, Beltsville, MD; Atlantic Breeders Coop, Lancaster, PA; DUO Diary, Loveland, CO, USA January 1996
	Seidel, G.E. et al., Uterine Horn Insemination of Heifers With Very Low Numbers of Non-frozen and Sexed Spermatozoa, Animal Reproduction and Biotechnology Laboratory Colorado State University, Atlantic Breeders Cooperative, Lancaster, PA 17601, Germplasm and Gamete Physiology Laboratory ARS, USDA, Beltsville, MD 20705, DUO Diary, Loveland, CO 80538, Theriogenology 48: 1255-1264, 1997
	Seidel, G.E. Jr, et al., Artificial Insemination of Heifers with Cooled, Unfrozen Sexed Semen, Theriogenology, Vol. 49 pp. 365 (Abstract) (1998)
	Seidel, G.E. Jr, et al., Insemination of Heifers with Sexed Sperm, Theriogenology, Vol. 52, pp. 1407-1421 (1999)
	Seidel, G.E. Jr., Cran, D.G., Herrickoff, L.A., Schenk, J.L., Doyle, S.P. and Green, R.D. 1999. Insemination of heifers with sexed frozen or sexed liquid semen. Theriogenology. 51. (in press). abstr. (1999)
	Senger, P.L., Becker, W.C., Davidge, S.T., Hillers, J.K. and Reeves, J.J. 1988. Influence of communal insemination on conception rates in dairy cattle. J Anim. Sci. 66:3010-3016.
	Shelton, J.N. and Moore, N.W. 1967. The response of the ewe to pregnant mare gonadotropin and to horse anterior pituitary extract. J. Reprod. Fert. 14:175 - 177.
	Shilova, A.V., Platov, E.M. and Lebedev, S.G. 1976. The use of human chorionic gonadothrophin for ovulation date regulation in mares. 8th Int. Congr. On Anim. Repro. and A.I. 204-208.
	Squires, E.L, Moran, D.M., Farlin, ME., Jasko, D.J., Keefe, T.J., Meyers, S.A., Figueiredo, E., McCue, P.M. and Jochle, W. 1994. Effect of dose of GnRH analogue on ovulation in mares. Theriogenology. 41:757-769.
	Squires, E.L., Early Embryonic Loss in Equine Diagnostic Ultrasonography, 1st Ed. pp 157-163 Eds. Rantanen & McKinnon. Williams and Wilkins, Baltimore, Maryland (1998)
	Squires, E.L., et al, Cooled and frozen stallion semen, Bulletin No. 9, Colorado State University, Ft. Collins, CO. (1999)
	Sullivan, J.J., Parker, W.G. and Larson, LL. 1973. Duration of estrus and ovulation time in non-lactating mares given human chorionic gonadotropin during three successive estrous periods. J.A.V.M.A. 162:895-898.
	Taljaard, T.L., Terblanche, S.J., Bertschinger, H.J. and Van Vuuren, L.J. 1991. The effect of the laparoscopic insemination technique on the oestrus cycle of the ewe. J. S Afr. Vet. Assoc. 62(2): 60-61.
	US Application, 09/454,488, entitled Improved Flow Cytometer Nozzle and Flow Cytometer Sample Handling Methods, filed December 3, 1999.
	US Application, 60/224,050, entitled Integrated System for Herd Management With Terminal-Cross Program Using Sexed Semen, filed August 9, 2000.
	US Application, 60/238,294, entitled Hysteroscopic Insemination of Mares, filed October 5, 2000.
_	US Application, 09/001,394 entitled Improved Sheath Fluids and Collection Systems for Sex Specific Cytometer Sorting of Sperm, filed on December 31, 1997, 83 pages and 4 drawings
	US Application 60/211,093, entitled Integrated System for Herd Management Using Sexed Semen, filed June 12, 2000.
	Vasquez, J., et al., A.I. in Swine; New Strategy for Deep Insemination with Low Number of Spermatozoa Using a Non-surgical Methodology, 14 th International Congress on Animal Reproduction, Vol. 2, Stockholm, July, 2000, p. 289.
	Vasquez, J., et al., Development of a Non-surgical Deep Intra Uterine Insemination Technique, IV International Conference on Boar Semen Preservation, Maryland, August, 1999, p 35 and photo of display board.
	Vasquez, J., et al., Successful Low-Dose Insemination by a Fiber optic Endoscope Technique in the Sow, Proceedings Annual Conference of the International Embryo Transfer Society, Netherlands, Theriogenology, Vol. 53, January, 2000, pp. 201.
	Vasquez, J., et al., Hypsometric Swelling Test as Predictor of the Membrane Integrity in Boar Spermatozoa, Boar Semen Preservation IV, 4th International Conference on Boar Semen Preservation, Maryland, pp. 263.
	Vidament, M., Dupere, A.M., Julienne, P., Evain, A., Noue, P. and Palmer, E. 1997. Equine frozen semen freeze ability

	and fertility field results. Theriogenology. 48:907.			
	Voss, J.L. and Pickett, B.W. 1976. Reproductive management of the broodmare. C.S.U. Exp. Sta. Anim. Reprod. Lab. Gen. Series. Bull. 1-12			
	Voss, J.L., Pickett, B.W., Burwash, L.D. and Daniels, W.H. 1974. Effect of human chorionic gonadotropin on duration of estrous cycle and fertility of normally cycling, non-lactating mares. J.A.V.M.A. 165:704-706.			
	Voss, J.L., Squires, E.L., Pickett, B.W., Shideler, R.K. and Eikenberry, D.J. 1982. Effect of number and frequency of inseminations on fertility in mares. J. Reprod. Fertil. Suppl. 32:53-57.			
	Welch G.R., et al., 1994. Fluidic and optical modifications to a FACS IV for flow sorting of X- and Y- chromosome bearing sperm based on DNA. Cytometry 17 (suppl. 7): 74.			
	Wilson, C.G., Downie, C.R., Hughes, J.P. and Roser, J.F. 1990. Effects of repeated hCG injections on reproductive efficiency in mares. Eq. Vet. Sci. 4:301-308.			
	Wilson, M.S. 1993. Non-surgical intrauterine artificial insemination in bitches using frozen semen. J.Reprod. Fert Suppl. 47:307-311.			
	Woods, J. and Ginther, O.J., 1983. Recent studies related to the collection of multiple embryos in mares. Theriogenology. 19:101 - 108.			
	Woods, J., Bergfelt, D.R. and Ginther, O.J. 1990. Effects of time of insemination relative to ovulation on pregnancy rate and embryonic-loss rate in mares. Eq. Vet. J. 22(6): 410-415.			
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